Practice 1

Code

```c
#include<stdio.h>

int main(void){
    int x;
    x = 5 * 8 - 7 + 2 * 3 - 3 + 4 /
        ↪ 2 + 2;
    printf("%i\n", x);
    return 0;
}
```

Output

```
40
```

Practice 2

Code

```c
#include<stdio.h>

int main(void){
    int x = 14, y = 5;
    y = x++ % 3;
    printf("%i\n", x);
    printf("%i\n", y);
}
```

Output

```
15
2
```

Practice 3

Code

```c
#include<stdio.h>

int main(void){
    int x = 3, y = 5;
    y *= 12 / ++x;
    printf("%i\n", x);
    printf("%i\n", y);
}
```

Output

```
4
15
```

Practice 4

Code

```c
#include<stdio.h>

int main(void){
    int x = 10, y = 20, z = 30;
    x *= y += ++z;

    printf("%i\n", x);
    printf("%i\n", y);
    printf("%i\n", z);
}
```

Output

```
510
51
31
```

Practice 5

Code

```c
#include<stdio.h>

int main(void){
    int x = 10, y;
    y = x++ + ++x;

    printf("%i\n", x);
    printf("%i\n", y);
}
```

Output

```
12
22
```

Practice 6

Code

```c
#include<stdio.h>

int main(void){
    int x = 8, y;
    y = ~x;

    printf("%i\n", x);
    printf("%i\n", y);
}
```

Output

```
8
-9
```

Practice 7

Code

```c
#include<stdio.h>

int main(void){
    int x = 8, y = 6, p, q, r;
    p = x & y;
    q = x | y;
    r = x ^ y;

    printf("%i\n", p);
    printf("%i\n", q);
    printf("%i\n", r);
}
```

Output

```
0
14
14
```

Practice 8

Code

```c
#include<stdio.h>

int main(void){
    int x = 8, y = 12, z;
    z = x << y / 4;
    y >>= x / 4;

    printf("%i\n", x);
    printf("%i\n", y);
    printf("%i\n", z);
}
```

Output

```
8
3
64
```

Practice 9

Code

```c
#include<stdio.h>

int main(void){
    int score = 48;
    score >= 55 ? printf("Pass\n") :
    ↪  printf("Fail\n");
}
```

Output

```
Fail
```

Practice 10

Code

```c
#include<stdio.h>

int main(void){
    int x, y, sum;
    float avg;

    printf("Number 1: ");
    scanf("%i", &x);
    printf("Number 2: ");
    scanf("%i", &y);
    printf("\n");

    sum = x + y;
    avg = (float) sum / 2;

    printf("Sum = %i\n", sum);
    printf("Average = %.2f\n", avg);
}
```

Output

```
$ Number 1: 5
$ Number 2: 10

  Sum = 15
  Average = 7.50
```

Practice 11

Code

```c
#include<stdio.h>

int main(void){
    const float pi = 3.14159;
    int radius, diameter;
    float circum, area;

    printf("Radius: ");
    scanf("%i", &radius);

    diameter = radius * 2;
    circum = pi * (float) diameter;
    area = pi * radius * radius;

    printf("Diameter = %i\n",
        ↪ diameter);
    printf("Circumference = %.2f\n",
        ↪  circum);
    printf("Area = %.2f\n", area);
}
```

Output

```
$ Radius: 5
  Diameter = 10
  Circumference = 31.42
  Area = 78.54
```